

HOW GRAPHICS COMMUNICATE

Barbara Tversky
Teachers College, Columbia University, USA

Graphics are one of the oldest and most effective forms of communication, across the planet. Cave drawings and maps are ancient examples and road signs and diagrams are recent ones. Analyses of graphic communications produced by adults and children in many cultures and for many situations reveal how they communicate and how they might communicate better. Graphics use elements and the spatial relations among them to convey elements and relations, spatial or metaphorically spatial. Elements may convey meaning by resemblance, by association, or by Gestalt or geometric principles. Spatial relations may be meaningful at categorical, ordinal, or interval levels. To be effective, graphics should conform to the congruency principle; that is, they should capture the mental models to be communicated. They should also conform to the apprehension principle, a reason why animated graphics so often fail to surpass static ones. The most effective graphics, route maps for example, have been perfected through generations of informal user testing. How to bring this process into the laboratory in the service of creating effective visualizations will be illustrated